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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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SHEWAREGED, BETTELHEIM

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1794

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/672,486  
Filing Date: September 25, 2003  
Appellant(s): MOFFATT ET AL.

\_\_\_\_\_  
Julia Church Dierker  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 04/18/2008 appealing from the Office action mailed 10/18/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

***Previous Grounds***

Claims 3, 21, 22, 24-26 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schleicher et al. (US 5,837,036).

Claims 3, 4, 6, 21-26 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchida et al. (US 2002/0071941 A1) in view of Schleicher et al. (US 5,837,036).

***Additional New Grounds***

Claims 4, 6, 21-26 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schleicher et al. (US 5,837,036).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 5,837,036	Schleicher et al.	11-1998
US 2002/0071941 A1	Tsuchida et al.	06-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Previous Grounds***

Claims 3, 21, 22, 24-26 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schleicher et al. (US 5,837,036).

Schleicher discloses a composition comprising poly(phenylene sulfide) coated on a support, wherein the poly(phenylene sulfide) has a molecular weight of 4,000-200,000, and a melting point of above 250 degree C. The poly(phenylene sulfide) comprises poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). (See col. 3, line 8 thru col. 3, line 49 and col. 4, line 34).

Claims 3, 4, 6, 21-26 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchida et al. (US 2002/0071941 A1) in view of Schleicher et al. (US 5,837,036).

Tsuchida discloses an ink jet recording medium comprising a homopolymer or copolymer compound containing sulfur (abstract) to ensure a high density of printed images, to provide images having high quality, to show only a slight color change and discoloration of printed images even when exposed to ozone gas and is excellent in the long-term shelf life (abstract). Tsuchida does not disclose that the sulfur containing compound is poly(1,4-

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phenylene sulfide) or poly(1,3-phenylene sulfide). Tsuchida further teaches the compound containing sulfur is coated on a substrate such as paper and plastic film [0031].

Schleicher teaches a composition that can be coated on a support, wherein the composition comprises poly(phenylene sulfide) having a molecular weight of 4,000-200,000, and a melting point of above 250 degree C. The poly(phenylene sulfide) comprises poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). (See col. 3, line 8 thru col. 3, line 49 and col. 4, line 34).

Tsuchida and Schleicher are analogous art because they are from a similar problem solving area in relation to ozone gas resistance. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the poly(1,4-phenylene sulfide) and/or poly(1,4-phenylene sulfide) of Schleicher with the invention of Tsuchida in order to reduce the ozone content in the recording sheet by reacting the ozone with the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) (see col. 1, line 65 of Schleicher).

With respect to the amount of the poly(1,4-phenylene sulfide) or poly(1,3-phenylene sulfide), the experimental modification of this prior art in order to, ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the amount of the poly(1,4-phenylene sulfide) or poly(1,4-phenylene sulfide) in order to ensure a high density of printed images, to provide images having high quality, to show only a slight color change and discoloration of printed images even when

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exposed to ozone gas. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

### ***New Grounds***

Claims 4, 6, 21-26 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schleicher et al. (US 5,837,036).

Schleicher discloses a composition comprising poly(phenylene sulfide) coated on a support, wherein the poly(phenylene sulfide) has a molecular weight of 4,000-200,000, and a melting point of above 250 degree C. The poly(phenylene sulfide) comprises poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). (See col. 3, line 8 thru col. 3, line 49 and col. 4, line 34).

With respect to the amount of the poly(1,4-phenylene sulfide) or poly(1,3-phenylene sulfide), the experimental modification of this prior art in order to, ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the amount of the poly(1,4-phenylene sulfide) or poly(1,4-phenylene sulfide), and the motivation would be to reduce or control ozone degradation of the coated support. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

#### **(10) Response to Argument**

Claims 3, 21, 22, 24-26 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schleicher et al. (US 5,837,036).

Appellant's arguments are based on that Schleicher's description of "support materials" is of quite a different thing than a print media; and these support materials would not for example serve as a good print medium, and they are not designed for or intended for such use. These arguments are not persuasive because the claims are not limited to "good" medium; and in the later case the argument is drawn to intended use. The manner in which the claimed article is intended to be employed does not differentiate the claimed article from the prior art article satisfying the claimed structural limitations.

Appellant's argument is based on that Schleicher's "support material" is not the same, nor does it cover an area which could be interpreted to be the same, as the Appellants' "print medium". This argument is not persuasive because the claimed type of medium includes broad range, thus it is non-limiting. Furthermore, at least the ceramic masses and the organic substance meet the claimed medium.

Even though Schleicher teaches filter which contains the ozone-binding polymer such as the claimed poly(phenylene sulfide) (col. 3, line 50+), the invention of Schleicher is not limited to filter only. Schleicher also teaches the use of the poly(phenylene sulfide) as a coating applied onto a support material (col. 3, lines 8-49). The claimed effects, i.e. printing functionality and gasfade resistance would implicitly be achieved by a composite with all the claimed



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ingredients. Tsuchida teaches a recording medium containing sulfur containing compound. Tsuchida and Schleicher are combinable because they are from similar problem solving area in relation to ozone gas resistance, and the motivation for combining would be to reduce the ozone content in the coated layer by reacting the ozone with the inhibitor (see col. 1, line 65 of Schleicher).

Claims 3, 4, 6, 21-26 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchida et al. (US 2002/0071941 A1) in view of Schleicher et al. (US 5,837,036).

Appellant's argument is based on that even though organic materials were listed as a possible support material, only plastic was mentioned specifically. Printable organic materials, such as paper or cellulose fiber were not mentioned, nor anything like it suggested. This argument is not persuasive because the claimed type of medium includes broad range, thus it is non-limiting. Furthermore, at least the ceramic masses and the organic substance meet the claimed medium. Even though the reference of Schleicher does not expressly disclose that the coated medium can be used for printing, such argument is drawn to intended use. The manner in which the claimed article is intended to be employed does not differentiate the claimed article from the prior art article satisfying the claimed structural limitations.

Appellant's argument is based on that Schleicher's description in the specification does not suggest using the poly(phenylene sulfide) as a print media

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coating or anything like it. Therefore, if Schleicher and Tsuchida were combined, there would not be suggested or taught all of the claim limitations. Specifically, there would be no suggestion of using poly(phenylene sulfide) on print medium. This argument is not persuasive because Tsuchida and Schleicher are analogous art because they are from a similar problem solving area in relation to ozone gas resistance. Furthermore, the reason for combining does not have to be the same as Appellant's; and in this case, it would have been obvious to a person of ordinary skill in the art to combine the poly(1,4-phenylene sulfide) and/or poly(1,4-phenylene sulfide) of Schleicher with the invention of Tsuchida, and the motivation would, as Schleicher suggests, to reduce the ozone content by reacting the ozone with the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) (see col. 1, line 65 of Schleicher).

Appellant's argument is based on that the combination of Schleicher and Tsuchida fail to teach or suggest either an "odorless" sulfur-containing polymer or "a plain paper, a porous print medium, or a swellable print medium". This argument is not persuasive because Tsuchida teaches at least the paper substrate, and Schleicher teaches the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide). It would have been obvious to a person of ordinary skill in the art to combine the poly(1,4-phenylene sulfide) and/or poly(1,4-phenylene sulfide) of Schleicher with the invention of Tsuchida, and the motivation would be, as Schleicher suggests, to reduce the ozone content by reacting the ozone with the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) (see col. 1, line 65 of Schleicher). Since the poly(1,4-

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phenylene sulfide) and poly(1,3-phenylene sulfide) compounds of Schleicher are substantially identical to the claimed compounds of poly(1,4-phenylene sulfide) and poly(1,3-phenylene sulfide), the compounds of Schleicher must be "odorless".

Appellant's argument is based on that the Examiner has failed to show that there would be some suggestion or motivation for one of ordinary skill in the art, to combine Schleicher and Tsuchida reference teachings in the first place. This argument is not persuasive because the suggestion or the motivation is, as Schleicher suggests, to reduce the ozone content by reacting the ozone with the poly(1,4-phenylene sulfide) and/or poly(1,3-phenylene sulfide) (see col. 1, line 65 of Schleicher), and for the above reason it would have been obvious to a person of ordinary skill in the art to combine the poly(1,4-phenylene sulfide) and/or poly(1,4-phenylene sulfide) of Schleicher with the invention of Tsuchida.

Appellant's argument is based on that Tsuchida teaches only a print medium coated with an ozone-binding sulfur-containing component with nothing about either "odorless" or "poly(phenylene sulfide)". This argument is not persuasive because Tsuchida teaches every claimed limitation except the poly(phenylene sulfide)", and Schleicher teaches the missing limitation that is the poly(phenylene sulfide)". It would have been obvious to a person of ordinary skill in the art to combine the poly(phenylene sulfide) of Schleicher with the invention of Tsuchida, and the motivation would be, as Schleicher suggests, to reduce the ozone content by reacting the ozone with the poly(phenylene sulfide) (see col. 1, line 65 of Schleicher). Since the poly(1,4-phenylene sulfide) and poly(1,3-

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phenylene sulfide) compounds of Schleicher are substantially identical to the claimed compounds of poly(1,4-phenylene sulfide) and poly(1,3-phenylene sulfide), the compounds of Schleicher must be "odorless".

### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed

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pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Betelhem Shewareged/

Primary Examiner, Art Unit 1794.

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

/Jennifer K. Michener/

QAS TC1700

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1794

Conferees:

/Jennifer K. Michener/

QAS TC 1700

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